

Before the  
**FEDERAL COMMUNICATIONS COMMISSION**  
Washington, D.C. 20554

<b>In the Matter of</b>	)	
	)	
<b>Amendment of Sections 15.35 and 15.253 of the</b>	)	<b>ET Docket No. 11-90</b>
<b>Commission's Rules Regarding Operation of</b>	)	<b>RM-11555</b>
<b>Radar Systems in the 76-77 GHz Band.</b>	)	
	)	
<b>Amendment of Section 15.253 of the</b>	)	<b>ET Docket No. 10-28</b>
<b>Commission's Rules to Permit Fixed</b>	)	
<b>Use of Radar in the 76-77 GHz Band.</b>	)	

**To: The Office of the Secretary**

**OPPOSITION OF ROBERT BOSCH LLC TO  
PETITIONS FOR RECONSIDERATION**

Robert Bosch LLC (Bosch), by and through counsel and pursuant to the *Public Notice*, Report No. 2965, 77 Fed. Reg. 68722, released October 31, 2012 (the *Public Notice*), hereby respectfully submits its Opposition<sup>1</sup> to (A) the Petition for Reconsideration filed October 10, 2012 by Dennis Farrell, International Sales Manager for Navtech Radar, Ltd. (Navtech); and (B) the Petition for Reconsideration filed on or about October 1, 2012 by Honeywell International, Inc. (Honeywell). Each of the Petitions for Reconsideration questions certain aspects of the *Report and Order*, FCC 12-72, 27 FCC Rcd. 7880, released July 5, 2012 (the Report and Order). The Report and Order made several modifications to Sections 15.35 and 15.253 of the Commission's Rules so as to enable enhanced vehicular technologies in the 76-77 GHz band for

---

<sup>1</sup> This Opposition is not timely filed pursuant to Section 1.429 of the Commission's Rules (47 C.F.R. § 1.429) and pursuant to the *Public Notice* in that it is being tendered more than 15 days after the date of publication of the Notice in the Federal Register, which was November 16, 2012 (77 Fed. Reg. 68722). However, the Opposition is being tendered only two days late, and this is as soon as possible after review and receipt of necessary approvals within Bosch. It is respectfully requested that the Opposition be accepted for filing and considered substantively. If either Navtech or Honeywell require two days' additional time to reply to this Opposition, Bosch interposes no objection thereto.

improved collision avoidance and driver safety, and to permit a very limited deployment of fixed radar applications in the 76-77 GHz band. For its opposition to the two Petitions for Reconsideration, Bosch states as follows:

## **I. Introduction.**

1. The *Report and Order* enacted modifications to Section 15.35 of the Commission's rules at the initial request<sup>2</sup> of Toyota Motor Corporation which are extremely important to the current and future deployment of vehicular radars and enhanced automotive safety. The Commission eliminated the "in-motion" and "not-in-motion" distinctions theretofore in the Commission's Part 15 rules, which limited emissions from vehicular radars, and substituted therefor a single emission limit that applies in all directions from a motor vehicle. The *Report and Order* also, very specifically, authorized only one very limited application for fixed radars at airports, for detection of foreign object debris (FOD) on runways, and for monitoring aircraft traffic (and service vehicles) on taxiways and other airport vehicle service areas *that have no public access*. Though the *Notice of Proposed Rule Making* in this proceeding<sup>3</sup> considered authorizing fixed radar systems operating in the 76-77 GHz band generally, and asked for comment on that subject, there were no comments filed whatsoever prior to the issuance of the *Report and Order* in this proceeding which addressed 76-77 GHz fixed radar systems, other than those involving FOD radars at airports. As the Commission put it at paragraph 26 of the *Report and Order*:

With respect to the use of fixed radars outside of airports, we continue to believe that vehicular radars should be able to share the band with fixed radars operating at the same levels and note that there are no conclusive test results indicating that there would be incompatibility issues between the two

---

<sup>2</sup> RM-11555.

<sup>3</sup> FCC 11-79, released May 25, 2011.

types of radars. We recognize, however, that no parties have come forward to support fixed radar applications beyond airport locations in this band. Therefore, in the absence of a clear demand, we are not adopting provisions for unlicensed fixed radar applications outside of airport locations in the 76-77 GHz band at this time.

2. While the Commission accurately stated that there are no conclusive test results establishing *incompatibility* between fixed radar facilities at 76-77 GHz and present or future automotive technologies in this band, that is not the proper metric for evaluating the authorization of a new use which is potentially incompatible with incumbent users in the same band, licensed or unlicensed. That is especially true in this context, in which acknowledged (and expanding) safety-of-life applications are the incumbent use. There were no comments filed, timely or untimely, nor any *ex parte* presentations which demonstrated or even alleged demand for fixed radar installations at 76-77 GHz outside of airport locations prior to the issuance of the *Report and Order*. Neither does the record reflect any indication that there is technical compatibility between fixed radars (as part of fixed infrastructure systems generally) and existing and future automotive radar systems in this band (which Bosch submits *is* the proper metric for evaluating a new use in this situation). Automotive radar systems have been extensively deployed in the 76-77 GHz band worldwide and in the United States for more than 14 years.<sup>4</sup> The Commission has held repeatedly and consistently that it has a distinct interest in the effective performance of these safety-of-life systems in motor vehicles, and that the technology is important and successful in preventing, or minimizing the harm to persons and property from

---

<sup>4</sup> These radars have been installed in a wide range of automobiles in the United States. Automotive radar operating in the band 76-77 GHz has been used worldwide for Adaptive Cruise Control (ACC) since 1998 and also in more advanced systems such as collision mitigation and pre-crash applications.

automobile collisions.<sup>5</sup> The Commission stated in 2002, when first permitting short-range vehicular radars at 24 GHz that it expected “vehicular radar to become as essential to passenger safety as air bags for motor vehicles...”<sup>6</sup>

3. The record in this proceeding is bereft of any studies that would indicate that there is compatibility between present and future automotive radar systems and fixed radar systems generally at 76-77 GHz. Because the potential for harmful interference to vehicular radars at 76-77 GHz translates directly into a danger to persons and property, and because the public does and should be able to depend on the automotive radars’ functionality at all times that the vehicle is in motion, the need for conclusive compatibility analyses relative to dissimilar uses in the same frequency band is critical on this point. The Commission did affirmatively find, on the record in this proceeding, that there is compatibility between automotive radar systems and certain airport radar systems under the conditions permitted in the amended Section 15.253. The record does not support any such conclusion with respect to fixed radars generally at 76-77 GHz.

4. The automotive industry is well-aware of the possibility that different vehicular radar applications operating in the 76-77 GHz band could cause mutual interference. Manufacturers are able to minimize any such risk, however, by coordinated deployment of compatibility standards. Due to the increasing number of radars in automotive use in this band, the industry has since 2010 been investigating interference avoidance and compatibility technologies in a European-funded project that also is examining the risk of interference from fixed installations. As Bosch has explained in this

---

<sup>5</sup> For example, at paragraph 7 of the *Report and Order*, the Commission found that the modifications to the rules adopted in the Report and Order “are intended to foster the development of improved radar systems that will offer significant safety benefits to the public. Studies show that use of collision avoidance technology can prevent or lessen the severity of a significant number of traffic accidents.”

<sup>6</sup> *Revision of Part 15 of the Commission’s Rules Regarding Ultra-Wideband Transmission Systems*, First Report and Order, ET Docket 98-153, released April 22, 2002, at ¶ 18.

proceeding in prior filings, this project is called “MOSARIM,” the acronym for “More Safety for All by Radar Interference Mitigation.” The project was initiated on January 1, 2010 and is expected to conclude by December 31, 2012. It is funded and led by a consortium made up of a substantial portion of the European automotive industry and the European Commission’s Joint Research Centre (JRC), under the structure of the European Union Seventh Framework Programme FP7 (ICT for Transportation). It held its first workshop on automotive radar interference mitigation and countermeasures in Ispra, Italy, on May 26, 2011, at the JRC headquarters.<sup>7</sup> A major goal of the MOSARIM project, among other things, is to prepare recommendations and guidelines for vehicular mutual radar interference mitigation techniques. It also is examining the interference effects of fixed 76-77 GHz installations on automotive radar sensors. While the final report of the project is not due until the end of 2012, preliminary results indicate that *there is not compatibility between automotive radar deployments and fixed radar installations*. An early conclusion of the MOSARIM project is that (A) the tested fixed 76-77 GHz installations resulted in significant interference to automotive radar sensors; (B) simulation results show that the interference power of an interferer with +45 dBm EIRP is up to 75 dB above the noise floor of the 76-77 GHz automotive radar sensor, which is beyond the interference rejection capacity of the radar sensor for unknown interference sources; and (C) while interference between and among different automotive radar sensors can be mitigated by cooperative efforts by the manufacturers of automotive radar systems, an unlimited number of fixed radars in the same band precludes such mitigation arrangements and jeopardizes the functionality of the automotive radars.

---

<sup>7</sup> Papers from the first MOSARIM workshop are available at <http://www.mosarim.eu/>.

5. It is obvious from this that compatibility cannot be assumed between automotive radar sensors and fixed installations at 76-77 GHz. This is an urgent concern because many thousands of consumers are now relying on automotive radar for safety applications and the numbers of such consumers are increasing steadily. There is no record that the Commission has which indicates that fixed installations present the same risk of harmful interference as exists between and among vehicles. Absent that record, the Commission wisely, and consistent with its ongoing policy and obligation to promote the most efficient use and re-use of spectrum, chose to defer the issue of fixed radar facilities at 76-77 GHz to another proceeding at a later date. Indeed, that was the urging of those in the automotive industry who filed timely comments in this proceeding. Even ERA, the original proponent of authorization of FOD radar installations, urged initially the cautious approach that the Commission ultimately adopted, limiting FOD radar installations to airport facilities only. ERA had suggested that a reasonable limit would be to avoid FOD radar installations that would illuminate public rights of way. The record firmly established that the Commission should await the results of industry research before permitting fixed radar installations generally in a different, later proceeding, and especially those which would or could be deployed in roadside applications.

6. A new entrant into this band, whether for fixed or vehicular <sup>8</sup> applications, whether or not meeting existing Part 15 power and emission limits, must demonstrate through analyses supported by technical showings compatibility with incumbent uses in the band, including automotive radar systems and radioastronomy. This obligation has not been satisfied by Navtech.

---

<sup>8</sup> Including OEM or aftermarket installations.

## **II. The Navtech Petition for Partial Reconsideration is flawed procedurally and substantively.**

7. Navtech was not a participant at any stage of the proceedings in either Docket 11-90 or Docket 10-28. The first time that Navtech indicated any interest in this proceeding at all was in the instant Petition for Partial Reconsideration that it filed (according to the Public Notice) on October 10, 2012. As such, Navtech's Petition is fatally untimely. The *Report and Order* in this proceeding was published in the Federal Register on August 13, 2012.<sup>9</sup> Pursuant to Section 1.429(d) of the Commission's Rules, Petitions for Reconsideration are due within thirty days of the date of publication of a Commission action in the Federal Register (i.e. September 12, 2012). Navtech's Petition was filed almost a month late. The timing of filing a Petition for Reconsideration is statutory and therefore jurisdictional and not subject to waiver. See, 47 U.S.C. §405. Navtech offers no explanation for its late filing of its Petition for Reconsideration. As such, its Petition must be dismissed as procedurally infirm.

8. Had the Navtech Petition been timely filed, it still would be defective, because Navtech offers no reason for its absence in this proceeding heretofore. Section 1.429(b) of the Commission's rules states that a petition for reconsideration which relies on facts which have not previously been presented to the Commission will be granted only in one of three circumstances: (1) where the facts relied on relate to events which have occurred or circumstances which have changed since the last opportunity to present them to the Commission; (2) where the facts relied on were unknown to the petitioner until after petitioner's last opportunity to present them to the Commission, and the petitioner could not through the exercise of ordinary diligence have learned of the facts in question prior

---

<sup>9</sup> 77 Fed. Reg. 48097- 48103.

to such opportunity; or (3) the Commission determines that consideration of the facts relied on is *required* in the public interest. None of these three criteria is present or applicable in this matter relative to Navtech's proposal; nor does Navtech's petition assert that any of the criteria apply. Therefore, as it was clearly possible for Navtech to have participated and made its arguments known prior to the issuance of the *Report and Order*, its petition must be dismissed.

9. Finally with respect to procedural flaws in the Navtech Petition for Reconsideration, Section 1.429(c) requires that a petitioner for reconsideration must state with particularity the respects in which petitioner believes the action taken should be changed. Navtech fails to satisfy this obligation. Navtech's Petition is little more than a marketing brochure, reciting in general terms the various potential or actual applications of its technology in Europe. Its request of the Commission is limited to the following, found on page 21 of its Petition:

It is for the above reasons that we respectfully request the commission (sic) to adopt the appropriate changes necessary to permit the use of the 76/77 GHz band for fixed structure applications in all of the application areas listed and that the term vehicle (sic) be applied to any ground based object that moves and therefore not limited to automobiles.

Nothing in that request states with any particularity in what respect the Section 15.253 rule should be modified from those in the *Report and Order*, or the operating parameters that should be implemented in the regulations. Not having done so, what Navtech has filed is in effect not a Petition for Reconsideration at all, but rather a petition for rule making. It should be addressed, if at all, in a later proceeding, in which Navtech could have an opportunity to develop the necessary compatibility studies and showings that



might justify its proposal, and to propose specific rules that could be meaningfully evaluated by interested parties.

10. Assuming *arguendo* that the several procedural flaws did not exist and that Commission could consider the Navtech Petition on its merits as a petition for reconsideration, the Petition is substantively flawed as well. Navtech manufactures a scanning radar system for incident alerting, traffic control, obstacle alerting and other fixed industrial, security and surveillance applications such as perimeter protection. It claims suitability for ITS applications along roadways and in tunnels used for automotive traffic, among other varied applications in varied environments. A portion of its Petition is dedicated to touting the allegedly beneficial applications of its fixed radar systems for roadway incident detection, including a 360-degree scanning radar antenna system mounted in roadside configuration. Navtech claims that its systems are designed for use in the millimeter-wave bands, and claims that the 76-77 GHz band is “beneficial” as opposed to other millimeter-wave bands for its application because of “lower weight, improved measurement results (e.g. range resolution) and reduced size for new equipment.” It is apparently using the 76-77 GHz band for this technology in Europe now, but it does not indicate whether it could or could not use other millimeter wave bands in the United States that would not involve interaction with automotive radar systems.<sup>10</sup> It is therefore impossible to evaluate the necessity for Navtech to utilize the 76-77 GHz band in the United States, *vice* other millimeter wave bands for the use of its technology. The Commission and the parties to this proceeding are therefore unable to accurately evaluate the Petition.

---

<sup>10</sup> In fact, for fixed outdoor use in the United States, other frequency bands are possible around 60 GHz and 122 GHz. ISM bands are also possible for use worldwide for these applications.

11. Most importantly, though Navtech asserts in conclusory fashion that there is compatibility between its fixed radar applications and automotive radar systems, it offers no technical compatibility analysis whatsoever.<sup>11</sup> Instead, it anecdotally relates the fact of three installations as its sole showing of compatibility with automotive radar systems at 76-77 GHz. It refers to installations of Navtech 76-77 GHz radars in ITS applications on an unspecified-length stretch of the M42 motorway in England with no “reports of any kind regarding radar interference with vehicle mounted radar systems.” It also cites an installation of its radar in a 1.1 mile section of tunnel on the A3 road in England for “over a year” without incident. Finally, it cites use of its radars on port vehicles in Australia for loading and unloading cargo at the port, without reported incident. These claims, which are not documented at all, do not establish to any degree whatsoever that there is in fact compatibility between Navtech’s fixed radar systems and automotive radar systems.<sup>12</sup> If in fact the Navtech M42 and A3 installations in England interfered with automotive radar systems, the effect would not have been noticed by motorists whose vehicular radars were rendered inoperative unless the systems were required to be deployed and failed. The alleged absence of reported interference is in this instance meaningless as a compatibility showing.

12. At present, fixed road infrastructure radar systems are permitted in the 76-77 GHz band in the European Union (EC) along with ground based vehicular applications. There is, however, a serious interference concern about co-location of fixed radar installation with automotive radars. Within ETSI, a systems reference document (SRDoc)

---

<sup>11</sup> Nor does it indicate whether each of its applications can comply with the average and peak power density limits

<sup>12</sup> While the new rules adopted in this proceeding will encourage wider deployment of automotive radars than exists at present, the percentage of vehicles now on the road that are equipped with 76-77 GHz automotive radar systems is relatively low, thus making Navtech’s anecdotal argument invalid.

is in preparation, which will describe the technical requirements of radars used in fixed road infrastructure. This SRDoc is being requested by ECC/CEPT and will, when completed, form the basis for a full study of interference between fixed road infrastructure and vehicular radars. If there is a finding of interference (as is predicted by the early results of the MOSARIM study) there will likely be frequency separation as between fixed road infrastructure radar and automotive radar in Europe. In Europe, the automotive industry has objected to the continuation of fixed and automotive radar at 76-77 GHz because there have been incompatibilities noted and instances of increases in harmful interference to automotive radar systems from such fixed uses, and this has triggered the ECC/CEPT study plan.

13. Navtech's Petition cites excerpts from a European Telecommunications Standards Institute (ETSI) Technical Report for the proposition that fixed outdoor radar operation in the 76-77 GHz band is feasible. However, the ETSI Technical Report [TR 102 704 V1.1.1 (2010-2012)]<sup>13</sup> cited by Navtech has been superseded by a later version which reaches a considerably different conclusion with respect to fixed radars and surveillance radars than that urged by Navtech. Robert Bosch, GmbH was the rapporteur for the work that resulted in the cited study. After the study was released, subsequent compatibility evaluations between (A) fixed outdoor radar deployments and radioastronomy, and (B) fixed outdoor radar deployments and automotive radar systems resulted in a decision by ETSI to revise the cited Technical Report. The new version of

---

<sup>13</sup> See, *Electromagnetic compatibility and Radio spectrum Matters (ERM); System Reference Document; Short Range Devices (SRD); Radar sensors for non-automotive surveillance applications in the 76 GHz to 77 GHz frequency range; SR Document for Short Range Devices for surveillance radar in the 76 to 77 GHz range* (2010).

the ETSI Technical Report [TR 102 704 V1.2.1 (2012-2013)]<sup>14</sup> is limited to ground-based vehicles only and *does not recommend fixed outdoor radar operation at 76-77 GHz*. Section 6.2.1.2 of the 2012 version of the Technical Report, entitled “*Sharing and compatibility issues still to be considered*” states in relevant part that:

Particular attention needs to be given to restrict the application in the 76 GHz to 77 GHz to surveillance ground based vehicular radar applications and not allow applications for installations to fixed sites or certain mobile installations in order to ensure compatibility... The most critical potential interference aspect for general surveillance radar applications is that this kind of application may overlap in the direction of automotive SRRs on public roads. In such scenarios, the surveillance radars potentially blind automotive radars operating in the same frequency and area.

Therefore, the current version of the ETSI study cited by Navtech suggests that Navtech’s products should not, absent further compatibility studies (including the final results of the MOSARIM study and other, further ETSI studies) be permitted in the 76-77 GHz band.

14. Worldwide, the automotive industry long ago settled on the 76-77 GHz band for Short Range Radars (SRRs) for anti-collision and adaptive acceleration and braking systems. In the United States, it was long ago concluded that the 76-77 GHz range would be used for automotive radar systems, and the Commission determined at the time that this use should be exclusive “until spectrum sharing criteria were developed.” On December 15, 1995, the Commission released a *First Report and Order and Second Notice of Proposed Rule Making* in ET Docket 94-124<sup>15</sup> which made available the entire 76-77 GHz band for automotive radar applications in the United States. Paragraph 17 of that First Report and Order stated that:

---

<sup>14</sup> See, *Electromagnetic compatibility and Radio spectrum Matters (ERM); System Reference Document; Short Range Devices (SRD); Radar sensors for non-automotive; ground based vehicular applications in the 76 to 77 GHz frequency range* (2012), available at: [http://www.etsi.org/deliver/etsi\\_tr/102700\\_102799/102704/01.02.01\\_60/tr\\_102704v010201p.pdf](http://www.etsi.org/deliver/etsi_tr/102700_102799/102704/01.02.01_60/tr_102704v010201p.pdf)

<sup>15</sup> 11 FCC Rcd. 4481 (1995) (the so-called “*Millimeter Wave*” proceeding).

As demonstrated by the comments, there is significant industry support for use of the entire 76-77 GHz band for vehicle radar systems. Indeed, the three major U.S. automobile manufacturers have targeted this band in their efforts to develop collision avoidance radars. Furthermore, testing of vehicle radar systems operating in the 76-77 GHz range has already commenced. We also foresee economic benefits, such as economies of scale and broader marketplace demand that may be obtained if both the U.S. and European markets use the 76-77 GHz band for vehicle radar systems. Accordingly, we are making this band available for vehicle radar systems.

However, the Commission was careful to note that, due to “the safety nature of vehicle radar systems and the lack of experience of such systems sharing with totally different technologies,” it had tentatively concluded in the Notice of Proposed Rule Making in that proceeding that “the bands should be made available for exclusive use by vehicle radar systems until spectrum sharing criteria were developed.”<sup>16</sup> It was explained to the Commission in comments in that proceeding that it would not be a simple matter to design interference avoidance schemes for unlimited emitters and users in fixed applications in the same band:

AAMA, Epsilon Lambda, Ford, HP, mmWAG and VORAD support this proposal. VORAD points out that vehicle radar systems will be used for collision warning, automatic cruise control, automatic braking, plus other longitudinal and lateral vehicle control applications. In such applications, VORAD stresses the necessity of preventing false alarms that could result from shared uses of the spectrum. VORAD adds that vehicle radar manufacturers can develop interference avoidance systems to cope with other vehicle radar systems on the road, but if the band is shared with unlimited emitters and users, it will be much more difficult and therefore more costly, to design interference avoidance schemes for all possibilities. HP indicates that it would be impractical for vehicle radar systems to share spectrum with licensed services.

15. Since that 1995 Report and Order, the band 76-77 GHz has in fact developed worldwide as the standardized band for long-range automotive radar, and in particular for forward-looking anti-collision and automatic braking radars. No study since that time has

---

<sup>16</sup> *Id.*, at ¶ 18.

concluded that there is compatibility between vehicular radars and unspecified fixed uses in the 76-77 GHz band. Given the foregoing, and as well the fatal procedural flaws in Navtech's Petition for Reconsideration, the same should be dismissed without further action, or held over for a separate, later proceeding. Navtech has failed to justify reconsideration of the actions taken and not taken in this proceeding to date.

### **III. The Honeywell Petition for Reconsideration.**

16. Honeywell has not filed a Petition for Reconsideration. Instead, it asked by letter, shortly after the issuance of the *Report and Order* in this proceeding for clarification of the portion of the *Report and Order* which permitted fixed radar applications in the 76-77 GHz band at airport locations for detection of foreign object debris (FOD) on runways and to monitor aircraft traffic and service vehicles on taxiways and other airport vehicle service areas that have no public access. The modifications to Section 15.253(c) adopted by the *Report and Order* relative to airport operation read as follows:

(c) Operation within the band 76.0–77.0 GHz is restricted to vehicle-mounted field disturbance sensors used as vehicle radar systems and to fixed radar systems used at airport locations for foreign object debris detection on runways and for monitoring aircraft as well as service vehicles on taxiways and other airport vehicle service areas that have no public vehicle access. The transmission of additional information, such as data, is permitted provided the primary mode of operation is as a field disturbance sensor. Operation under the provisions of this section is not permitted on aircraft or satellites.

Honeywell asked the Commission to clarify that this rule section permits use of Honeywell's radar system (a warning system for taxiing aircraft which is, Honeywell claims, "similar" to vehicular radar systems on automobiles) aboard aircraft while those

aircraft are on the ground (despite the rule specifically prohibiting such radars “on aircraft.”

17. Though Honeywell’s request for clarification, (an e-mailed letter submitted to a member of the Commission’s Office of Engineering and Technology staff on July 25, 2012) is timely, it is not clear that Honeywell could not have timely participated in this proceeding. The October 1, 2012 cover letter from counsel for Honeywell urging that the July 25, 2012 Honeywell letter be treated as a Petition for Reconsideration claims that Honeywell “had not yet confirmed the feasibility of the technology identified in the...letter until after the comment period had closed and the Commission had issued a Report and Order in the subject proceeding.” While that may be the case, Honeywell certainly was developing the technology during the pendency of the proceeding and would have had to realize (or should have realized) that the proceeding would or could have a profound effect on its technology. It is not clear therefore why earlier participation in this proceeding was not possible. Had Honeywell timely participated in the proceeding, it may have been possible for interested parties to evaluate the potential interaction between “wingtip anti-collision warning systems” on aircraft (while on the ground) and automotive radar systems on public roadways adjacent to airports. As it is, the parties who timely participated in this proceeding were deprived of that opportunity.

18. Furthermore, Honeywell’s claim that it could not have been aware in advance of a September 2, 2012 NTSB letter to the FAA urging development and use of wingtip anti-collision warning systems on aircraft is irrelevant. This could not have been a factor influencing Honeywell’s decision not to participate timely in this proceeding, since Honeywell had already been engaged in the development of its radar technology for this

same application. Therefore, the claimed compliance with Section 1.429(b)(2) rings hollow.

19. It may, as Honeywell suggests, prove true at some point in the future that its aircraft-mounted radar application at 76-77 GHz is compatible with automotive radar systems in the same band (assuming implementation of the limits that Honeywell recommends). However, the record in this proceeding up to this moment does not support such a finding. In this respect, Honeywell's Petition suffers the same substantive flaw as does that of Navtech. Honeywell submits nothing which establishes the level of compatibility with deployed automotive radar systems in the 76-77 GHz band. Neither does Honeywell indicate the extent of susceptibility of its radars to interference from properly operating automotive radar systems. Nor does it show that the 76-77 GHz band is necessary or even preferable as opposed to other bands which could be used for the same application. Finally, it offers an unconvincing justification for its inability to participate earlier in this proceeding. As such, Honeywell's proposal should be deferred to a separate, later proceeding, in which Honeywell could provide a justified proposal with appropriate documentation and adequate compatibility analyses.

#### **IV. Conclusions.**

20. The Petitions for Reconsideration listed on the *Public Notice* are both procedurally and substantively flawed. The Navtech Petition is significantly untimely and must be dismissed for that reason. It fails to provide a reasonable justification for its failure to earlier participate in this proceeding, or to make its arguments on a timely basis so that they could be evaluated by the parties to the proceeding in a meaningful way. Most importantly, however, Navtech does not provide any substantive evidence of



compatibility between its fixed radar applications at 76-77 GHz and incumbent (and rapidly expanding) automotive radar systems in that band. The only evidence that is available to date is that the sharing between fixed infrastructure applications and automotive radar applications in Europe is not working, and ongoing studies there on that specific topic are not yet complete. The *Report and Order* in this proceeding appropriately limited fixed applications in the 76-77 GHz band to those airport facilities permitted in the revised Section 15.253 as the record in this proceeding supports no further expansion of fixed radar applications in the band.

21. Honeywell's proposed authorization for mobile radar aboard aircraft while on the ground is similarly unsupported. Its failure to participate in this proceeding on a timely basis has deprived the parties to this proceeding of the opportunity to evaluate on a technical basis the extent of compatibility of aircraft wingtip anti-collision warning systems with automotive radar systems on public rights-of-way in the immediate vicinity of airports. Having failed to justify the authorization of this new radar application, Honeywell must initiate a separate proceeding, and therein provide the necessary compatibility showings that the Commission acknowledged were necessary long ago for any proposed use of the 76-77 GHz band other than automotive radars.

Therefore, the foregoing considered, Robert Bosch LLC respectfully requests that the Commission deny or dismiss both Petitions for Reconsideration without prejudice.

Respectfully submitted,

**ROBERT BOSCH LLC**

By: /s/ Norman Johnson  
Norman Johnson  
Director, Government and External Affairs

38000 Hills Tech Drive  
Farmington Hills, MI 48331  
(248) 876-2930

By: /s/ Ana Meuwissen  
Ana Meuwissen  
Director, Government and External Affairs

1341 G Street, N.W.  
Suite 700  
Washington, D.C. 20005-3131

Christopher D. Imlay, Attorney  
Booth, Freret, Imlay & Tepper, P.C.  
14356 Cape May Road  
Silver Spring, MD 20904-6011  
(301) 384-5525

December 5, 2012

## **CERTIFICATE OF SERVICE**

I, Christopher D. Imlay, do hereby certify that I caused to be sent, by e-mail and as well via first class U.S. Mail, postage prepaid, a copy of the foregoing OPPOSITION TO PETITIONS FOR RECONSIDERATION to the following, this 5<sup>th</sup> day of December, 2012.

Mr. Dennis Farrell  
International Sales Manager  
Navtech Radar, Ltd.  
Unit 16 Home Farm  
Ardington  
Wantage  
Oxfordshire, UK  
OX12 8PD

Bruce A. Olcott, Esquire  
Squire Sanders LLP  
1200-19<sup>th</sup> Street, N.W.  
Suite 300  
Washington, D.C. 20036

/s/ Christopher D. Imlay  
Christopher D. Imlay